BOWENS
INTERNATIONAL

QUADX 3000

User Guide

QUADX 3000 INSTRUCTIONS BWL- 0335 1-03-02
BOWENS INTERNATIONAL LIMITED

Introduction

Dear Customer,

Thank you for choosing Bowens. The QuadX 3000 is an accurate, ergonomic and powerful professional flash generator.   In order to obtain the full benefit from your purchase, please spare a few moments to familiarise yourself with this user manual.

Thank you.

Bowens International Ltd

SAFETY NOTES

DO NOT :-

- Use in an environment where moisture or flammable vapour is likely to come in contact with the unit.

- Insert or remove flash heads without first switching off

- Restrict air vents while in use.

- Use a unit with damaged covers, mouldings, flash tube or modelling bulb. If the unit is dropped or damaged in any way always have it checked out before using.

- Operate the unit without an safety Earthed mains supply.

DO :-

- Switch off and disconnect from the supply before changing modelling bulb or flash tube.

- Observe the mains supply requirements

- Avoid placing cables where they can be tripped over. Protect from heavy, sharp or hot objects, which may cause damage and replace damaged cables immediately.

Model Number	QuadX 3000
Stored Energy (Max)	3000Ws Channel A only or split 2000Ws (CHA) + 1000Ws (CHB)
Typical Recycle Time (Full Power 230V 50Hz)	2 seconds 240VAC 50Hz 2.6 seconds 120VAC 60Hz
Supply Voltage AC	100-250V 50 or 60Hz
Stabilisation	+/- 0.1 f-stop
Modelling Lamps	4 x Max 650W
Ready Indication	Green 'READY' LED at 100% Audible and Modelling light Indication as selected.
Overload Protection	15A Thermal Breakers for Charge and Modelling
Nominal Sync. Voltage	6V
Photocell	On/Off
Sounder	On/Off
Modelling Power Control	Off / Proportional / Independent / 100%/ Automatic 100% plus bias control
IR Remote Control	Full control, 12 channels No. depends on transmitter
Guide Number: Full power, 50° Keylite, ISO 100	175 (UV coated tube)
Flash Duration (Full Power) t=0.5	1/1430s – Approximate value indicated
Flash Colour Temperature	Approx. 5600K (UV coated)
Flash Power Control	6.6 f-stop in 1/10 increments, scaled 10 = 3000 Ws
Recommended Flash Head : QuadX 3000	BW-7660
Dimensions	L =360mm, W=180mm, H =370mm
Weight	11.6Kg

Due to our policy of constant product improvement Bowens International Limited reserve the right to change equipment specifications without notice.

Accessories

For details of all related products please contact your local distributor or visit WWW.BOWENSINTERNATIONAL.COM

8.0   Warnings

WARNINGS & FAULT FINDING

If the unit appears to have developed a fault, first establish that it is a genuine internal fault and not a case of normal operation such as overheat. Carry out the following checks to eliminate any external causes. If no obvious problem can be found and replacement of the modelling lamp, flash tube or fuse does not effect a cure then it is likely that an internal fault has developed. Always return the unit to an authorised service centre if a fault is suspected after these checks. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT ANY REPAIR yourself.

Flash/Misfire Warning

Following a flash, the unit will temporarily display READY on the red numeric displays for 5 seconds. This serves as a convenient method of showing correct pack operation when two or more packs are running flashing together. If the unit receives a trigger signal from any of the valid sources (TEST, IR REMOTE, IR TRIGGER, SYNC) but fails to flash for any reason then the red numeric will display "headfail". Press ⇐ to clear the message. Increase the power setting to maximum and use the TEST button to try and flash again. If the problem continues to happen on more than the odd occasion, particularly at lower power settings, then it is likely that the flash head tube is wearing out. Before replacing the tube, check that the trigger wire is correctly connected and is not shorted to or in close proximity to the metal reflector. If the unit fails to flash at all then check the flash tube for signs of damage or overheating.

If the unit fails to flash and the display warning is not given then the Sync. lead and/or camera should be suspected. If possible check these with another flash system. Check the polarity of the Sync. from the camera and use an adapter to reverse it if necessary. The QuadX 3000 supplies a SYNC. voltage of +5V with respect to the chassis Ground.

OVERHEAT Warning

The unit is fitted with overheat protection that inhibits charging until the unit has cooled sufficiently. The display flashes the READY LED and displays a warning message on the LCD while the overheat condition exists. Overheat will normally only occur if the unit is flashed repeatedly at a fast repetition rate. Slowing down the repetition rate will normally help keep the unit out of overheat. Dimming the modelling lamp or turning it off may also help.

NOTE: The controls are inhibited during overheat to prevent inadvertent changes being made. The overheat condition remains until the pack reaches a target lower temperature or is turned off and then on after the pack has cooled by a few degrees.

The Control Panel Does Not Light

If the control panel does not light when the unit is switched on then first check that the AC power supply to the unit is OK and that the thermal resets buttons on the rear are set. Under exceptional conditions of use the internal fuse may blow. This is normal and is designed to protect the unit. Report the problem to your local service agent. Do not attempt to locate and replace the internal fuse.

The Control Panel Lights but Does Not come To 'READY'

If this happens then first confirm that the AC power supply is adequate and within the prescribed limits. Try switching the unit off, wait a minute, and then switch on again.

This page is intentionally blank

Fig 1

Sync Sockets

Sockets On/Off
A1,A2,B1,B2

Power Level Displays
A1,A2,B1,B2

Ready LED

Channel A Adjust

Channel B Adiust

Photo Cell /
Slave

Channel A and
Channel B Adjust

IR Remote
Receiver

Open TEST

LCD Menu &
Display

Modelling Lamps
On/Off

Serial Comms
Port

Menu Navigation
Keys

Fig 2

Head Sockets
A1,A2,B1,B2

Carry Handle
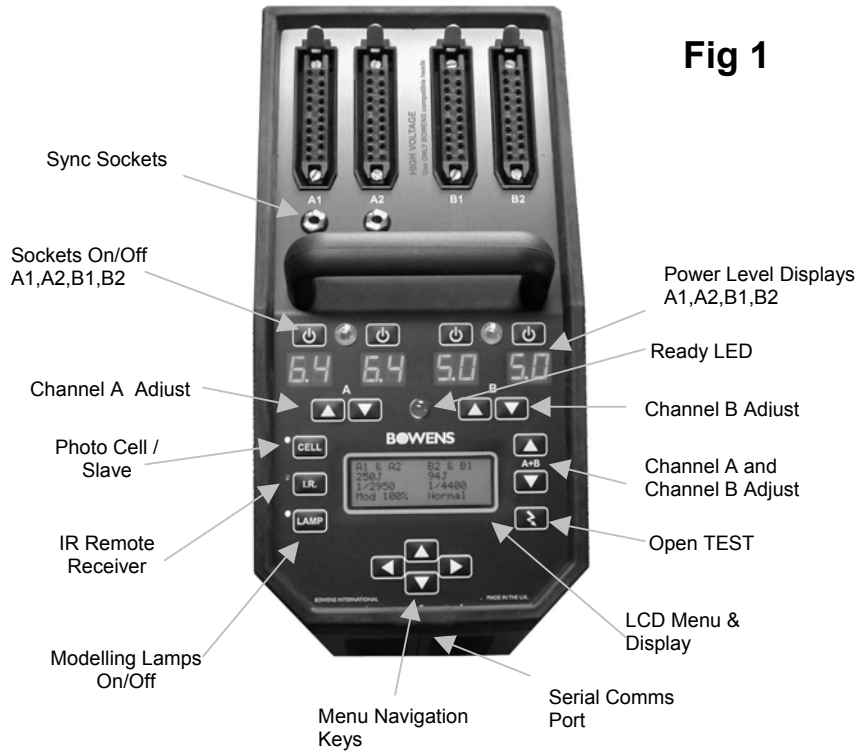
Mains Inlet

100-240VAC 50/60Hz

16A

On/Off
Switch

Charge
CutOut

Modelling
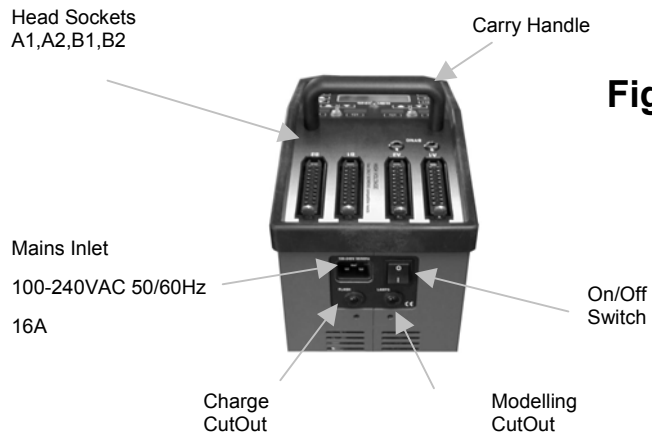CutOut

Advanced Options ⇒ Setup Flash Mode ⇒ Multi Trigger

The multi trigger mode allows the pack to fire a multiple number of times following a single trigger signal. The number of times the pack will fire can be set in the range 2 – 50. In addition, the time between firing may also be set between 0.1 and 9.9 seconds.

Note that the user must ensure that the pack will recharge within the time specified as otherwise it will not be READY and hence will not fire as expected.

Selection and adjustment is performed using the ⇑⇓ to scroll, ⇒ to select. The > character changes to * when an item is ready to change.

Advanced Options ⇒ Reset Job Counter

The QuadX pack has two flash counters. The total flash counter, which can not be modified by the user and the job counter. Both counters increment on every attempted flash.

The job counter may be used to record the number of flashes over a particular period by resetting it's value to zero before a session and then reading the value after the session.

To view the Job Counter select :

Advanced Options ⇒ Reset Job Counter

To reset the job counter press ⇓

```
FLASH COUNTER MENU
Press Down to Reset
Job Counter  000006
Pack Total   000010
```

The QuadX displays information about the power available at each socket by means of 4 RED numeric displays. In addition, this information is converted to Ws data and shown on the LCD.

Each red numeric display is aligned with an associated outlet socket. Most of the QuadX controls are aligned with the associated socket.
Looking at the sloping control panel area, from the handle there are 4 On/Off toggle switches. These switch the sockets On or Off **if** a socket is fitted.
The red numeric display will show **- -** when Off and will be blank if there is no socket fitted.

Beneath the red displays are two pairs of adjustment buttons. These control the power available from the channel socket pairs A1/A2 and B1/B2.

To the left, there are three toggle controls to switch the photocell, I.R remote and modelling On or Off.
To the right, there are two adjustment buttons to simultaneously raise or lower the power from channels A & B, keeping them in ratio. Beneath these buttons is the Open Flash test button.

Beneath the LCD are 4 menu navigation buttons.

HINT : Remember QuadX always displays the relative power for each socket,
automatically adjusting the levels as sockets are turned On or Off.

2.0   QuadX 3000 function overview

Your QuadX 3000 is a versatile and powerful photographic generator.

Flash Power

The pack has 4 head sockets which can deliver a total power of 3000W/S in various ways. At all times, the pack will indicate the available power at any socket. This is scaled such that 3000W/S represents 10 on the display. Lower power levels are proportional and adjustable in steps of 0.1 stops.
e.g. A value of 9.0 represents half the pack, 1500W/S.

The pack is divided into two channels A & B. These channels are further split across two sockets each A1/A2 & B1/B2. The energy available from each socket is displayed. Switching Off a socket, will cause the unit to dump the energy in order to maintain the remaining channel/socket. There is no need to manually accommodate these changes.

With channel A in use only, the full pack power is available to share between sockets A1 and A2. Therefore a single head in A1 can discharge the full 3000W/S.

With a head switched on in either of the channel B sockets B1/B2, the pack automatically becomes asymmetric. In this mode, a maximum of 2000W/S is available across channel A and maximum of 1000W/S across channel B.

As you become familiar with operating the pack, you will notice short delays in the unit returning to ready during power adjustments. This is because the unit always adjusts the power level to match the displayed value for each socket. Turning a socket off for example, requires the energy to be dumped, hence the delay. A further reason is that for any given power level, the unit will automatically optimise the internal capacitor usage to minimise the flash duration.

Modelling Power

Modelling On/Off is controlled by a single button. Modelling control to each head can be set to ON/OFF or INTERMITTENT. (Intermittent extinguishes the lamps when the unit is not Ready).

There are 3 modelling modes namely, FULL, PROPORTIONAL and AUTOMATIC 100%. The FULL and AUTOMATIC 100% modes also provide a bias control allowing all lamps to be controlled in ratio.

Main Selection Controls

The commonly required adjustments are grouped under the main selection menu. This allows control over the following :-

1.   Modelling
2.   Speaker
3.   IR Channel
4.   Bracketing

7.0   Advanced Options Menu

Advanced Options ⇒ Charge Control

To adjust the charge control :-

Advanced Options ⇒ Charge Control. Use ⇑⇓ to toggle Auto/Slow charge.

Advanced Options ⇒ Setup Flash Mode

This mode contains three advanced features :-

Trigger Delay, Trigger Skip and Multi-Trigger. These features may be operated standalone or in conjunction with one another.

Selection begins : Advanced Options ⇒ Setup Flash Mode

Use ⇑⇓ to scroll, ⇒ to select.

```
FLASH MODE CONTROLS
> Trigger Delay:OFF
  Trigger Skip :OFF
  Multi-Trigger:OFF
```

HINT : Whenever a flash mode is enabled, the default menu will show Progmd on the default menu in order to show a mode is in place. All modes are switched OFF after powering off the unit.

Advanced Options ⇒ Setup Flash Mode ⇒ Trigger Delay:

The Trigger delay function allows a timed delay between triggering the pack and the pack discharging. The feature maybe toggled ON or OFF and the delay period may be varied from 0 to 9.9 seconds in steps of 0.1S. Selection and adjustment is performed using the ⇑⇓ to scroll, ⇒ to select. The > character changes to * when an item is ready to change.

Advanced Options ⇒ Setup Flash Mode ⇒ Trigger Skip

The Trigger Skip function is solely for use with 2 or more packs and is designed to allow the photographer to trigger packs alternately and therefore more rapidly. To do this, the pack must first be assigned a pack ID number, which must be less than or equal to the number of packs in use. Next, the number of packs must be set to equal the number of packs to be used. Each pack must be connected to the same trigger source. As a trigger signal occurs, the pack will begin counting the number of triggers. If this is equal to the pack ID, then the pack will trigger.

e.g. Consider 3 packs set up with Pack ID 1, Pack ID 2 and Pack ID 3.

Having switched on the Trigger Skip function, the first trigger will cause Pack 1 to fire, the second trigger will cause Pack 2 to fire, the third trigger will cause pack 3 to fire. The fourth trigger will cause Pack 1 to fire and so on..

Advanced Options ⇒ Brightness

This option allows the brightness of the RED numeric displays to be altered.

Advanced Options ⇒ Brightness. Use ⇑⇓ to adjust the brightness level 1 - 9

Advanced Options ⇒ Time Out Setting

This option allows the unit to automatically revert to the default menu after a preset number of seconds. Additionally, if the value is set to 0, the unit will never time back to the default menu and will rely on the user pressing the ⇐ key to go back.

Advanced Options ⇒ Time Out Setting. Use ⇑⇓ to adjust the value 0, 3 – 30 seconds. Values 1 & 2 are deliberately unavailable.

HINT : Holding down the ⇑⇓ will auto increment the values.

Advanced Options ⇒ Save/Recall Setup

This option allows the unit settings to be saved to the memory or loaded back from the memory. Additionally, the factory default settings may be loaded.

To Save(Store) the current pack settings :-

Advanced Options ⇒ Save/Recall Setup. Use ⇑⇓ to select "Save to Memory".

Press ⇒ to SAVE the pack settings and return to the Advanced Options Menu

To Load(Recall) the pack settings from memory :-

Advanced Options ⇒ Save/Recall Setup. Use ⇑⇓ to select "Load from Memory".

Press ⇒ to LOAD the pack settings and return to the Advanced Options Menu

To Restore the pack factory settings :-

Advanced Options ⇒ Save/Recall Setup. Use ⇑⇓ to select "Restore Defaults".

Press ⇒ to RESTORE the pack default settings and return to the Advanced Options Menu

Advanced Options ⇒ Charge Control

This option allows the unit to either charge automatically achieving the fastest possible charge rate OR allows the selection of a SLOW charge rate.

In using the pack, the user must consider the electrical load placed upon the mains supply. As a worst case, with 4 heads plugged in using 650W of modelling each, the mains supply could be overloaded with continual fast charge cycling. In such cases, switch to SLOW charge or use the lamps in intermittent mode, so that the loading is reduced during charge cycles.

Advanced Options

There are a number of advanced features available on the QuadX. These are accessed by selecting Advanced Options from the main selection menu.

The following is a brief list of features available, which are described in more detail in Section 6.0.

1.	Speaker Setup	- Control Ready, Error and keypad tones

2.	Alternate Unit	- Choose to display Power in Joules or as a percentage.

3.	Brightness	- Control the display brightness

4.	Time Out Settings	- Control the time between Auto returning to default menu

5.	Save/Recall	- Store and Retrieve pack settings

6.	Charge control	- Switch between Auto and Slow charge rates

7.	Setup Flash Mode	- Set Trigger Delays, Skip Triggers and Multiple Triggers

8.	Reset Job Counter	- Clear the job count

Triggering System

The unit maybe triggered from the following sources

1.	A sync plug in either of ¼" jack-type socket sockets will trigger the pack if the READY LED is lit. The sync supply is nominally +5V for low voltage camera operation. These sockets may also be used with Radio and IR triggers to provide a synchronous trigger.

2.	Test/Open Flash button. The unit will only flash if the unit is charged and the 'READY' LED is either lit or flashing.

3.	Remote Photo Cell. When switched On, the unit will trigger in response to an external flash of light, if the READY LED is lit. Ensure the sloping panel is exposed clearly to the triggering light source.

4.	IR Remote Control Test. With the IR receiver switch, the unit can be triggered by the open flash test button on the IR handset.

Adjust the FLASH & MODELLING controls to provide the desired settings and select any options required. Refer to the section on operation of the controls if required. Test flash the unit by pressing the TEST button.

Excess energy is automatically dumped when the flash power setting is reduced. Both increasing and decreasing the power setting generates heat inside the unit. Therefore avoid repetitive Up and Down power changes.

NOTE: If the unit is left unused for 6 months or predominantly used at low power settings it is recommended that the power be increased to maximum and the unit left switched on occasionally for at least 30 minutes to help preserve the life of the capacitors.

3.0   Getting Started

Remove packaging and ensure the unit is switched Off. Setup a flash head, ensuring the protective cap is removed and the modelling lamp is switched on.

Plug the head into socket A1.

Note : Locate the tapered part of the socket first, then press down on the cable end to ensure the socket 'clicks' into place properly – See diagram below :-

1. Switch the pack On. The unit will show one red display. If - - is shown, press the socket A1 On/Off button to turn the socket on.

2. The pack will now charge to a level proportional to the setting shown on the left most red numeric display.

3. Use the Channel A adjustment buttons to vary the power level from socket A1. Adjust the unit to show 10 on the display. Use the open flash button to discharge the 3000 W/S.

4. Switch the pack off. Plug the head into socket B2. This time the rightmost numeric display will illuminate. Adjust the channel power up to it's maximum, noting that it will stop at 8.4. This is because the pack becomes asymmetric with any head switched on in channel B.

    You are now ready to begin using the pack.

    NOTE: If the unit has been left unused for 6 months or predominantly used with low power settings, it is recommended that the power be increased to maximum and the unit left switched on occasionally for at least 30 minutes to help preserve the life of the capacitors.

7.0   Advanced Options Menu

The Advanced Options Menu offers the ability to control and adjust the following functions.

1. Speaker Setup

2. Alternate Units

3. Brightness

4. Time Out Setting

5. Save/Recall Setup

6. Charge Control

7. Setup Flash Mode

8. Reset Job Counter

```
   ADVANCED OPTIONS
   Reset Job Counter
 > Speaker Setup
   Alternate Units
```

Menu Navigation within the advanced menu is consistent with other menus.

Use the ⇑⇓ keys to navigate to the options of choice. Use ⇒ to select the option.

Use ⇑⇓ to modify the parameters.

Advanced Options ⇒ Speaker Setup

This option allows the tone and duration to be adjusted for the Error tone, the Ready tone and the Keypad tone. Each tone may also be individually turned On or Off.

Advanced Options ⇒ Speaker Setup.

⇑⇓ to scroll to the desired tone for adjustment. ⇒ to select.

⇑⇓ to scroll to the desired adjustment. ⇒ to select.

The > will change to a * character to show that the value may be modified using the ⇑⇓ keys.

There are 10 available tones. The duration is measured in steps of 0.1s in the range 1 to 30.

HINT : Holding down the ⇑⇓ will auto increment the values.

Once the value has been modified, press ⇐ to go back and accept the changes.

NOTE : Turning the speaker On or Off from the main selection menu will override the speaker On/Off settings if the speaker is switched from Off to On.

Advanced Options ⇒ Alternate Units

This option allows the unit to display energy in terms of Joules or as a percentage of total pack power

Advanced Options ⇒ Alternate Units. Use ⇑⇓ to toggle between Joules/percentage

6.0   The Main Selection Menu

The unit is considered to be in bracketing mode when the display indicates Bracketing Options or Bracketing Mode. Under these conditions the unit will automatically check and warn if the selection is not possible within the existing setting constraints. A warning occurs if the bracket step will take the unit outside of it's normal operating range.

Bracketing Mode Example

As an example, assume a single head in socket A1 set for 7.0. First select a 0.3 stop bracket step. Now select Low to High by scrolling and pressing ⇒.

```
BRACKETING MODE
Start -0.3F  Next
Centre 0.0F  Pending
Finish +0.3F Pending
```

The screen indicates the first flash will occur 0.3 stop below the present power setting. The second flash will be at the present power setting and the final flash will be 0.3 stop above the present power setting. At any time, pressing ⇐ will take the user back and out of bracketing mode.

Speaker On/Off

```
SPEAKER ON/OFF MENU

The Speaker is ON
```

This menu allows the speaker to be switched On or Off.

Use the ⇑⇓ to toggle the speaker On or Off.

Set IR Channel

```
IR CHANNEL SETUP
Use Up/Dwn to modify

Current Channel= 1
```

This menu allows the Infra Red Channel to be adjusted.

Use the ⇑⇓ to adjust the IR Channel

Setting ALL allows the unit to respond to any IR transmitter.

Advanced Options

```
MAIN SELECTION MENU
  Set IR Channel
> Advanced Options
  Bracketing Modes
```

To select Advanced Options, press ⇒ at the menu above. See section Advanced Options.
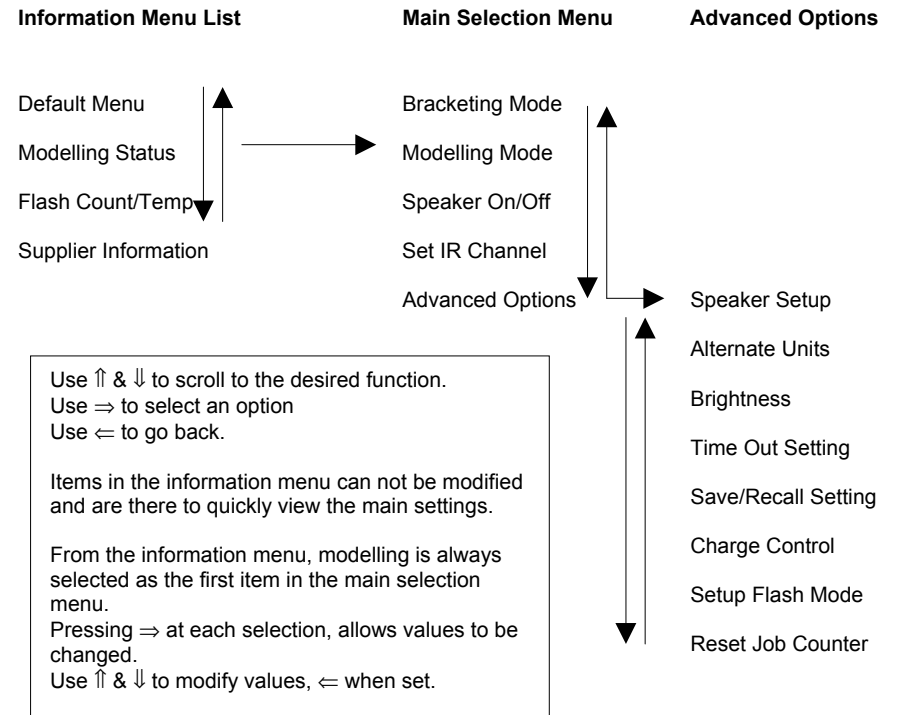
4.0   Menu System Overview

The QuadX has a 3 tier menu which is simple to use and operate. The menus are selected using the four navigation keys at the bottom of the sloping panel.

At switch on, the unit displays the DEFAULT MENU. This shows the following information :-

```
A1 only    CHB Off        ◄──  Socket Status
250J       ******              Energy per socket
1/1430     ******              Expected Flash duration per head
Mod 100%   Normal              Modelling = 100% and mode = Normal
```

HINT : REMEMBER, TO GET BACK TO THE DEFAULT MENU, JUST KEEP PRESSING THE LEFT (BACK ⇐) ARROW KEY

The menu structure is arranged as shown below :-

Information Menu List	Main Selection Menu	Advanced Options
Default Menu	Bracketing Mode	
Modelling Status	Modelling Mode	
Flash Count/Temp	Speaker On/Off	
Supplier Information	Set IR Channel	
	Advanced Options	Speaker Setup
		Alternate Units
		Brightness
		Time Out Setting
		Save/Recall Setting
		Charge Control
		Setup Flash Mode
		Reset Job Counter

Use ⇑ & ⇓ to scroll to the desired function.
Use ⇒ to select an option
Use ⇐ to go back.

Items in the information menu can not be modified and are there to quickly view the main settings.

From the information menu, modelling is always selected as the first item in the main selection menu.
Pressing ⇒ at each selection, allows values to be changed.
Use ⇑ & ⇓ to modify values, ⇐ when set.

HINT : The easiest way to learn the menu, is to have a play to see what's there. You can't damage anything.

5.0   The Information Menus

The Default menu is shown below and shows the following information :-

```
A1 only    CHB Off
250J       ******
1/1430     ******
Mod 100%   Normal
```

Line 1 shows the socket status Active/Off.

Line 2 shows the energy level per socket

Line 3 shows the expected flash duration into a QuadX 3000 flash head.

Line 4 shows the Modelling setup i.e 100%, Auto or Proportional. In addition on the right hand side, the display shows the mode of operation. This is always set to NORMAL at switch on and only changes when using the advanced programmed trigger sequences.

Pressing ⇓ leads to the modelling status screen.

```
A1   A2   B1   B2
CONT CONT CONT CONT
MODELLING MODE 100%
MODELLING BIAS:100%
```

Line 2 indicates the individual lamp operating methods i.e.

continuous, Intermitent or Off.

Line 3 indicates the Lamp mode : 100%, Auto 100%, Prop

Line 4 indicates whether any bias has been applied to the lamp settings. Ordinarily this is set at 100%, but in Auto 100% mode and 100% mode, the lamps may all be dimmed in ratio by applying a bias.

```
Auto Charge in Use
Caps 25'C Chrg 23'C
Flash Count: 000001
IR CHAN=ALL S/W 1.0
```

Pressing ⇓ leads to the unit status screen. This indicates the charge mode, the internal temperature of the capacitors, the total flash count for the pack, Infra Red Channel and software version.

```
BowensInternational
Clacton on Sea,
Essex,
England
0044 1255 422807
```

Pressing ⇓ leads to the unit status screen. This simply shows the supplier details.

HINT : At all times, pressing ⇒ will take you to the Main Selection Menu.

6.0   The Main Selection Menu

The Main Selection Menu offers the ability to control and adjust the following common functions.

```
MAIN SELECTION MENU
   Bracketing Mode
 > Modelling Mode
   Speaker On/Off
```

1.   Modelling

2.   Bracketing

3.   Speaker On/Off

4.   IR Channel

It also provides the entry point into the Advanced Menu. Menu choice is denoted by the '>' character which always defaults to Modelling when coming from an Information Menu.

To select an item, use the ⇑⇓ to scroll the screen until the > character is aligned with the item required. Press ⇒ to select the item. The * character will move to indicate the new mode of operation.

Modelling

Automatic 100% and Full (100%) have the further option to apply a dimming bias. Upon selection of these modes, press ⇒ again to enter the bias control menu. Here, use the ⇑⇓ to adjust the value.

In all cases, use ⇐ to go back.

Modelling Option Summary :

Modelling Mode ⇒ Lamp Proportional

Modelling Mode ⇒ Automatic 100%   ⇒ Lamp Dimming Mode (Bias)

Modelling Mode ⇒ Full (100%)   ⇒ Lamp Dimming Mode (Bias)

Modelling Mode ⇒ Cont/Int/Off Modes ⇒ Selection of A1,A2,B1,B2,All.

If Cont/Int.Off is selected, a new menu will be revealed to allow mode adjustment of each socket i.e. Continuous, Intermittent or Off. This is also reflected by the red display. Adjustment is made by pressing the ⇒ at each line of selection. The ALL value represents a quick way to adjust all the lamps together. This will change to USER SET if any of the lamps is set differently to any other.

Bracketing

Bracketing allows 3 consecutive shots to be taken at power levels above, at and below the current setting level. The bracketing sequence may be arranged to start at a low power working upwards or alternatively may begin at a high power and work downwards. The first thing to do when using bracketing is to ensure you have set the bracket step. Scroll as follows :-

Bracketing ⇒ Set Bracket Step. Now use ⇑⇓ to adjust the number from 0.1stop to 0.9 stop. Press ⇐ when set.